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and that repeated torsion value RT (turns/100D) of the steel wire, which is defined as sum of forward twisting and reverse twisting given until a crack is formed on a steel wire in a test wherein a steel wire is subjected to a repetition of forward twisting equivalent to 3 turns per 100D and reverse twisting to the original state with the axis of the steel wire kept straight, satisfies following formula;

$\log RT \geq 2-0.001\{TS-(2250-1450\log D)\}$.

2. (Amended) A steel wire according to claim 1, having tensile strength TS (N/mm2) satisfying following formulas,

$TS \geq 2750-1450\log D$.

6. (Amended) A method of manufacturing a steel wire according to claim 8, wherein ε at the final die is set from 3.5 to 4.2.

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7. (Amended) A method of manufacturing a steel wire according to clam 8, wherein a bending operation with tension is applied to the steel wire drawn through the final die.

8. (New) A method of manufacturing a steel wire comprising; a wire diameter ranging from 0.10mm to 0.40mm obtained by subjecting a high-carbon steel wire material having a carbon content ranging from 0.70% to 0.90% in weight to heat treatment and wire drawing, characterized in;

a tensile strength TS (N/mm^2) of the steel wire satisfies following formula,

$TS \geq 2250-1450 \log D$

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wherein D is the diameter of the steel wire in mm and log means common logarithm,

and that repeated torsion value RT (turns/100D) of the steel wire, which is defined as sum of forward twisting and reverse twisting given until a crack is formed on a steel wire in a test wherein a steel wire is subjected to a repetition of forward twisting equivalent to 3 turns per 100D and reverse twisting to the original state with the axis of the steel wire kept straight, satisfies following formula~~,~~

$\log RT \geq 2-0.001\{TS-(2250-1450 \log D)\}$,

said method comprising the steps of heat treating drawing a high-carbon steel wire material after heat treatment, wherein the step of drawing is carried out according to following conditions;

1. reduction per die is set from ~~form~~ (22.67 ε +3)% to 29% for dies at which ε is less than 0.75, KJP 11/29/01

2. reduction per die is set from 20% to 29% for dies at which ε is not less than 0.75 and not more than 2.25,

3. reduction per dies is set from (-5.56 ε +32.5)% to (-6.22 ε +43)% for dies at which ε is more than 2.25 except for the final die,

4. reduction per die is set from 4% to (8.3 ε +40.6)% for the final die, and

5. ε at the final die is set from 3.0 to 4.3,

wherein ε is drawing strain expressed by a formula $\varepsilon = 2\ln(d_0/d)$, d_0 is diameter of the steel wire material in mm before drawing, d is diameter of the steel wire in mm after passing through a die, and 1n means natural logarithm.

B3 Cont'd

9. (New) A steel wire comprising wire diameter ranging from 0.10mm to 0.40mm obtained by subjecting a high-carbon steel wire material having a carbon content ranging from 0.70% to 0.90% in weight to heat treatment and wire drawing,

the steel wire manufactured by drawing a high-carbon steel wire material after heat treatment, wherein the drawing is carried out according to following condition;

1. reduction per die is set form (22.67 ε +3)% to 29% for dies at which ε is less than 0.75,

2. reduction per die is set from 20% to 29% for dies at which ε is not less than 0.75 and not more than 2.25,

3. reduction per dies is set from (-5.56 ε +32.5)% to (-6.22 ε +43)% for dies at which ε is more than 2.25 except for the final die,

4. reduction per die is set from 4% to (8.3 ε +40.6)% for the final die, and

5. ε at the final die is set from 3.0 to 4.3,

wherein ε is drawing strain expressed by a formula $\varepsilon = 2\ln(d_0/d)$, d_0 is diameter of the steel wire material in mm before drawing, d is diameter of the steel wire in mm after passing through a die,

and 1n means natural logarithm and the tensile strength TS (N/mm^2) of the steel wire satisfies following formula,

$TS \geq 2250-1450logD$

wherein D is the diameter of the steel wire in mm and log means common logarithm,

and that repeated torsion value RT (turns/100D) of the steel wire, which is defined as sum of forward twisting and reverse twisting given until a crack is formed on a steel wire in a test wherein a steel wire is subjected to a repetition of forward twisting equivalent to 3 turns per 100D and reverse twisting to the original state with the axis of the steel wire kept straight, satisfies following formula,

B3 Cont'd

$logRT \geq 2-0.001 \{TS-(2250-1450logD)\}$

10. (New) A steel wire according to claim 9, having tensile strength TS (N/mm2) satisfying following formula.

$TS \geq 2750-1450logD.$

11. (New) A steel wire according to claim 10, having repeated torsion value RT not less than 60% of RT of the same steel wire the surface layer of which has been removed by the amount equivalent to 10% of total volume.

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12. (New) A steel wire according to claim 9, having breaking torsion value, which is defined as an amount of twisting to one direction subjected to a steel wire until the steel wire is broken, not less than 20 turns per 100D when the steel wire has been given such a preforming that the steel wire has minimum radius of curvature of 10 to 60 times its diameter and embedded in rubber and taken out from the rubber after vulcanization.